

US Army Corps
of Engineers
Kansas City District

**KANSAS CITY DISTRICT
CORPS OF ENGINEERS
and
HOLT COUNTY MISSOURI DRAINAGE DISTRICT NO. 10**

**Public Law 84-99 of the Flood Control Act of 1944
Levee Rehabilitation – NEPA Review, Environmental
Assessment & Finding of No Significant Impact**

**HOLT COUNTY MISSOURI DRAINAGE
DISTRICT NO.10, NON-FEDERAL, ITEM
114A
LEVEE REHABILITATION PROJECT
MISSOURI RIVER
HOLT COUNTY, MISSOURI**

FEBRUARY 2008



DEPARTMENT OF THE ARMY
KANSAS CITY DISTRICT, CORPS OF ENGINEERS
700 FEDERAL BUILDING
KANSAS CITY, MISSOURI 64106-2896

Finding of No Significant Impact

Holt County Missouri Drainage District No. 10 – Levee Rehabilitation Project Holt County, Missouri February 2008

Project Summary

The Kansas City District-U.S. Army Corps of Engineers (COE), in cooperation with the project sponsor, Holt County Missouri Drainage District No. 10, proposes to construct the Holt County Missouri Drainage District No. 10 Levee Rehabilitation Project under the authority of Public Law 84-99 of the Flood Control Act of 1944. The project area is located in Holt County, Missouri along the left descending bank of the Missouri River, river miles 502.7 to 492 and the right descending bank of Little Tarkio Creek. During the May 2007 flood event, severe damages to the levee unit occurred. The damages consist of two levee breaches at stations 323+00 to 323+75 and 333+00 to 340+80; crown, landside and riverside slope erosion at stations 323+75 to 333+00 and 340+80 to 341+50; intermittent crown and landside slope erosion at stations 345+00 to 390+37 and 391+75 to 398+00; and intermittent crown, landside and riverside slope erosion at stations 390+37 to 391+75 and 520+00 to 542+00.

Alternatives

Four alternatives were considered: (1) In-place repairs; (2) Landward levee setbacks (3) In-place repairs w/ a slight landward setback and (4) No action.

Alternative 1: In-place repairs. The In-place repairs alternative would involve the re-establishment of lost foreshore area, levee embankment and filling of an associated landward scour. Quarry-run-stone protection will be required along the established riverside levee slope/foreshore area to prevent erosion. Reseeding of landside slopes would be done to reestablish sod cover.

Alternative 2: Landward levee setback. This alternative would involve work to repair damage with approximate and 1,330-linear-feet of landward setback. The landward setback would commence from existing levee station 331+00 and tie to existing levee station 341+50. The new levee embankment would have a 10-foot crown width, with 1-foot vertical on 3-foot horizontal side slopes. The maximum landward setback is approximately 100 feet from the original levee alignment. Reseeding of landside slopes would be done to reestablish sod cover.

Alternative 3: In-place repairs with slight landward levee setback. This would involve filling the scour holes at the breaches and constructing the levee very near the original alignments but with a slight setback. Reseeding of landside slopes would be done to reestablish sod cover.

No-Action Alternative: The “No Action” Alternative would involve no construction or repair of the levees by the Corps of Engineers.

Recommended Plan

The recommended plan is Alternative 3, “In-place repairs with a slight landward levee setback.” This plan would restore an approximately 10-year level of flood protection to the existing levee system near its original alignment. This would involve filling the scour holes at the two breaches and constructing the levee very near the original alignment, but with a slight setback. Fill material obtained from three borrow sites would be used to fill in the scour holes and restore the levee to its pre-protection levels. The identified borrow sites are landward, farmed wetlands that are listed under the Natural Resource Conservation Service (NRCS) Wetland Reserve Program (WRP). Removal of fill from borrow sites would be excavated and shaped in a manner to provide temporary and seasonal emergent wetlands that revegetate naturally. Excavation depths would be limited to 24-inches, and the total land area disturbed by borrow operations is approximately four acres. In addition, the levee slopes would be contoured and seeded to establish sod cover, and at station 390+37 to 391+75, less than one cubic yard of quarry-run-stone protection would be placed along the established riverside levee slope/foreshore area near the Big Lake outfall channel to prevent erosion.

The Holt Levee District has conducted part of the above stated repairs. The levee district has utilized two of the three adjacent borrow sites for fill material, and those borrow sites have been environmentally cleared for cultural resources. The excavation standards for acquiring fill material from borrow sites are the same for the COE and Holt Levee District, and therefore the environmental impacts discussed in the EA would be similar.

Summary of Environmental Impacts

The proposed action would involve restoring agricultural levees damaged during the May 2007 flood to their pre-protection levels. This project would result in minor, short term impacts to the aquatic ecosystem and minor, short term impacts to fish and wildlife and the habitats upon which they depend. In addition, the proposed action would result in minor, long term impacts associated with the loss of agricultural cropland. Approximately four acres of farmed wetlands and 0.1 acre of farmland would be taken out of row crop production during the acquiring of fill material and to allow space for the levee setback. However, the properties from which borrow will be obtained are enrolled in the Wetland Reserve Program (WRP) and have significant deposits of sandy material that resulted from the nearby levee breach during the 2007 flood. Using these areas as borrow will allow this depositional material to be removed and restore the wetlands that previously existed. In addition, removal of this sediment will allow for long-term beneficial impacts to these WRP areas by restoring their depth (24 inches) and shaping the perimeter to restore wetland hydrology. Therefore, the proposed borrow activity in the farmed wetlands is designed to enhance the functions and values of the aquatic ecosystem. In addition, the proposed action would have no impact to sites listed on or eligible for inclusion on the National Register of Historic Places. Overall, the minor, short-term impacts associated with this project are outweighed by the long-term social and economic benefits.

Mitigation Measures

The recommended plan will result in no adverse impacts to mitigable resources as defined in USACE Planning regulations or under Section 404 of the Clean Water Act. The selection of borrow sites was coordinated with the levee district and the Natural Resources Conservation

Service (NRCS) and followed the guidance contained in the Standard Operating Procedures for selection of borrow sites used for levee repairs after the 1995 Missouri River flood. These guidelines were developed in coordination with the U.S. Fish and Wildlife Service and the Missouri Department of Conservation and are intended to protect and enhance jurisdictional wetlands, Federally listed threatened and endangered species and their habitats, and other important riverine and floodplain habitats. Therefore, no compensatory mitigation is required or proposed.

Public Availability

Prior to a decision on whether to prepare an Environmental Impact Statement, CENWK circulated a Notice of Availability (Notice) of the Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI), dated February 22, 2008, with a thirty-day comment period ending on March 22, 2008 to the public and resource agencies. The Notice was e-mailed to individuals/agencies/businesses listed on CENWK-Regulatory Branch's e-mail mailing list. The Notice informed these individuals that the EA and Draft FONSI were available on the CENWK webpage or that they could request a hard copy of the EA and Draft FONSI in order to provide comment. One comment was received from USFWS and is summarized in the EA, Section 9.

Levee rehabilitation projects completed by the Corps under authority of Public Law 84-99 generally do not require the preparation of an Environmental Impact Statement. These projects typically result in long-term social and economic benefits and the adverse environmental effects are typically minor/long-term and minor/short-term construction related. Minor long-term impacts associated with these projects are typically well outweighed by the overall long-term social and economic benefits of these projects. As described above, the recommended plan is consistent with this assessment of typical levee rehabilitation projects completed by the Corps under authority of Public Law 84-99 of the Flood Control Act of 1944.

Conclusion

After evaluating the anticipated environmental, economic, and social effects of the proposed activity, it is my determination that construction of the proposed Holt County Missouri Drainage District No. 10 Levee Rehabilitation Project to restore segments of earthen levee damaged by flooding, does not constitute a major Federal action that would significantly affect the quality of the human environment; therefore, preparation of an Environmental Impact Statement is not required.

Date: 18 April 08



Roger A. Wilson, Jr.
Colonel, Corps of Engineers
District Commander

**NEPA REVIEW
ENVIRONMENTAL ASSESSMENT
&
FINDING OF NO SIGNIFICANT IMPACT**

**PUBLIC LAW 84-99
HOLT-COUNTY, MISSOURI DRAINAGE DISTRICT NO. 10 –SECTION 2
LEVEE REHABILITATION PROJECT
HOLT COUNTY, MISSOURI**

TABLE OF CONTENTS

SECTION 1: INTRODUCTION

SECTION 2: AUTHORITY

SECTION 3: PROJECT LOCATION

SECTION 4: GENERAL DESCRIPTION

SECTION 5: PROJECT DAMAGES

SECTION 6: PURPOSE AND NEED FOR ACTION

SECTION 7: ALTERNATIVES CONSIDERED IN THE EA

SECTION 8: RECOMMENDED PLAN

SECTION 9 NATIONAL ENVIRONMENTAL POLICY ACT REVIEW

SECTION 10: AFFECTED ENVIRONMENT

SECTION 11: ENVIRONMENTAL CONSEQUENCES

SECTION 12: CUMULATIVE IMPACTS

SECTION 13: MITIGATION MEASURES

SECTION 14: CONCLUSION

SECTION 15: COMPLIANCE WITH ENVIRONMENTAL QUALITY STATUTES

SECTION 16: PREPARERS

**TABLE 1 - Compliance of Preferred Alternative with Environmental Protection
Statutes and Other Environmental Requirements**

APPENDICES

APPENDIX I – Projects Drawings

APPENDIX II –State Historic Preservation Officer, Coordination Letter

**NEPA REVIEW
ENVIRONMENTAL ASSESSMENT
&
FINDING OF NO SIGNIFICANT IMPACT**

**PUBLIC LAW 84-99
REHABILITATION OF HOLT COUNTY LEVEE DISTRICT NO. 10,
ITEM NO. 114A,
HOLT COUNTY, MISSOURI
FEBRUARY 2008**

Section 1: INTRODUCTION

This Environmental Assessment (EA) provides information that was developed during the National Environmental Policy Act (NEPA) public interest review of the proposed Public Law 84-99.

Section 2: AUTHORITY

The Kansas City District – U.S. Army Corps of Engineers (COE), in cooperation with the project sponsor, Holt County Missouri Drainage District No. 10 proposes to construct the Holt County Levee Rehabilitation Project under the authority of Public Law 84-99 of the Flood Control Act of 1944.

Section 3: PROJECT LOCATION

The project area is located in Holt County, Missouri along the left descending bank of the Missouri River, river miles 502.7 to 492 and right descending bank of Little Tarkio Creek. The Holt County levee system is adjacent to the Big Lake outfall channel that ends at the Missouri River.

Section 4: GENERAL DESCRIPTION

The project levee is an agricultural, non-Federal levee. The last repair on the levee unit was done in 1994. The levee unit consists of approximately 55,700 linear feet of earthen flood control works. It protects approximately 13,000 acres of agricultural lands (approximately 10,000 acres in cropland). It also protects the community of Big Lake, population 170, 420 residences mostly in and around Big Lake community (60 permanent & 360 seasonal), three businesses, 54 barns, approximately 2.2 miles of State Highway Route 159 and approximately 5.5 miles of State Highway Route 111, approximately 3.0 miles of State Highway Route 118, approximately 45.0 miles gravel roads and 20.0 miles of unimproved farm to market roads, approximately two miles of overhead power lines and buried utility lines, and approximately two miles of two-buried 24' natural gas pipelines. Limited protection is afforded to approximately two miles of Burlington Northern railroad embankment.

Section 5: PROJECT DAMAGES

During the May 2007 flood event, severe damages to the levee unit occurred. The damages consist of two levee breaches at stations 323+00 to 323+75 and 333+00 to 340+80; crown,

landside and riverside slope erosion at stations 323+75 to 333+00 and 340+80 to 341+50; intermittent crown and landside slope erosion at stations 345+00 to 390+37 and 391+75 to 398+00; and intermittent crown, landside and riverside slope erosion at stations 390+37 to 391+75 and 520+00 to 542+00; and lost sod cover on the landside levee slope at station 317+00 to 323+00.

Section 6: PURPOSE & NEED FOR ACTION

The project purpose and need is to rehabilitate the levees damaged during the May 2007 flood event, and restore the associated social and economic benefits. Failure to restore the flood damage reduction capability of the levee system would keep area residents livelihood and social well-being in turmoil, subject to the continuous threat of flooding until level of flood protection is restored. In addition, failure to reconstruct the levee could adversely affect the tax base of the county and municipal governments and special districts, such as school districts. In addition, loss of jobs and potential losses in agricultural production on lands protected by the levee would also be incurred.

Section 7: ALTERNATIVES CONSIDERED IN THE EA

Four alternatives were considered: (1) In-place repairs; (2) Landward levee setbacks; (3) In-place repairs w/ a slight landward setback; and (4) No action.

Alternative 1: In-place repairs. The In-place repairs alternative would involve the re-establishment of lost foreshore area, levee embankment and filling of an associated landward scour. Quarry-run-stone protection will be required along the established riverside levee slope/foreshore area to prevent erosion. Reseeding of landside slopes would be done to reestablish sod cover.

Alternative 2: Landward levee setback. This alternative would involve work to repair damage with approximate and 1,330-linear-feet of landward setback. The landward setback would commence from existing levee station 331+00 and tie to existing levee station 341+50. The new levee embankment would have a 10-foot crown width, with 1-foot vertical on 3-foot horizontal side slopes. The maximum landward setback is approximately 100 feet from the original levee alignment. Reseeding of landside slopes would be done to reestablish sod cover.

Alternative 3: In-place repairs with slight landward levee setback. This would involve filling the scour holes at the breaches and constructing the levee very near the original alignments but with a slight setback. Reseeding of landside slopes would be done to reestablish sod cover.

No-Action Alternative: The "No Action" Alternative would involve no construction or repair of the levees by the Corps of Engineers.

Section 8: Recommended Plan Alternative.

The recommended plan is Alternative 3, In-place repairs with a slight landward levee setback. This plan would restore an approximately 10-year level of flood protection to the existing levee system near its original alignment. This would involve filling the scour holes at the two breaches and constructing the levee very near the original alignments but with a slight setback. Fill material obtained from three borrow sites would be used to fill in the scour holes and restore the levee to its pre-protection levels. The identified borrow sites are landward, farmed wetlands that are listed under the Natural Resource Conservation Service (NRCS) Wetland Reserve Program

(WRP). Removal of fill from borrow sites would be excavated and shaped in a manner to provide temporary and seasonal emergent wetlands that revegetate naturally. Excavation depths would be limited to 24-inches, and the total land area disturbed by borrow operations is approximately four acres. In addition, the levee slopes would be contoured and seeded to establish sod cover, and at station 390+37 to 391+75, less than one cubic yard of quarry-run-stone protection would be placed along the established riverside levee slope near the Big Lake outfall channel to prevent erosion.

The Holt Levee District has conducted part of the above stated repairs. The levee district has utilized two of the three adjacent borrow sites for fill material, and those borrow sites have been environmentally cleared for cultural resources. The excavation standards for acquiring fill material from borrow sites are the same for the COE and Holt Levee District, and therefore the environmental impacts discussed in the EA would be similar.

Section 9: NATIONAL ENVIRONMENTAL POLICY ACT REVIEW

As part of the NEPA review for the proposed project, CENWK circulated a Notice of Availability (Notice) of the Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI), dated January 25, 2008, with a thirty-day comment period ending on February 24, 2008 to the public and resource agencies. The Notice was e-mailed to individuals/agencies/businesses listed on CENWK-Regulatory Branch's e-mail mailing list. The Notice informed these individuals that the EA and Draft FONSI were available on the CENWK webpage or that they could request the EA and Draft FONSI in writing, in order to provide comment.

The following comments were received and evaluated from coordination of the Notice:

USFWS comment: USFWS requested a brief description of borrow acquisition activities and how they would enhance the existing wetland functions and a point of contact for National Resource Conservation Service. In addition, USFWS requested the investigation of whether the project would affect a bald eagle nest located north of the project site.

USACE response: USACE provided the requested information to USFWS and incorporated that information into the final EA. Also, USACE investigated the location of the bald eagle nest and made a determination that the bald eagle nest would not be impacted by the project because the nest is located outside of the project boundaries and outside of the required buffer area.

USFWS comment: No additional comments.

Section 10: AFFECTED ENVIRONMENT:

The project area is located in Holt County, Missouri along the left descending bank of the Missouri River, river miles 502.7 to 492 and right descending bank of Little Tarkio Creek. This area is mainly comprised of agricultural lands with small pockets of riparian trees interspersed along the Missouri River and Little Tarkio Creek. Common trees found within this area include willows, cottonwoods and sycamores. In addition, various wildlife species occupy the riparian zone such as small fur-bearing species, white tail deer, and various birds, including neo-tropical migrants.

Primary resources of concern identified during the evaluation included: noise levels, water quality, fish and wildlife, vegetation, wetlands, agricultural, archeological and historical resources, flood control, economics and aesthetics. Projects impacts to other resources were determined to be no effect.

Section 11: ENVIRONMENTAL CONSEQUENCES:

Water quality

With the implementation of the recommended plan, impacts to water quality would result in minor, temporary, and localized impacts to water quality from the placement of earthen and rock fill in the Big Lake outfall channel. Impacts from construction activities may increase turbidity in the immediate area. However, best management practices would be used to retain the fill within the project boundaries and minimize the introduction of fuel, petroleum products, or other deleterious material from entering into the waterway. Such measures would include use of erosion control fences; storing equipment, solid waste, and petroleum products above the ordinary high water mark and away from areas prone to runoff. Also, best management practices would be used to minimize the spread of invasive species during the movement of borrow fill material. Such practices would require that all equipment be thoroughly cleaned and dried before brought on site and when removed from site to minimize the spread of invasive and exotic species. To prevent any stockpiled fill from reaching water sources by wind or runoff, fill would be covered, stabilized or mulched, and/or other suitable erosion control measures would be used.

Alternative 1: In-place repairs. The impacts to water quality would be similar to those described in the recommended plan.

Alternative 2: Landward levee setback. The impacts to water quality would be less than those described in the recommended plan because this alternative would not include the placement of fill into the Big Lake outfall channel.

Under the No-Action Alternative, the damaged levees would not be restored to their pre-damaged levels of protection. However, in the absence of Federal action addressing levee improvements, a high water event could result in the release of a variety of industrial chemicals and substantially impact the natural and human environment within the project area. Levee failure could result in adverse impacts to water quality from increased levels of nutrient loading and wastes, including runoff of pollutants from industrial sources, petroleum products, and non-point sources of human and animal wastes.

Fish and wildlife

With the implementation of the recommended plan, noise during construction activities may disturb wildlife in the area, in which wildlife such as small mammals, and birds would leave the project area and return once construction activities are completed. Short-term and minor impacts to fish could result from increased turbidity and runoff.

Alternative 1: In-place repairs. Under this alternative, impacts to wildlife and fish would be similar to those described in the recommended plan.

Alternative 2: Landward levee setback. Under this alternative, impacts to wildlife would result from visual disturbance and noise. Impacts to fish would be less than those described in the recommended plan because this alternative would not include the placement of fill into the Big Lake outfall channel. In addition, fish would benefit from the additional aquatic habitat created from the riverward scour holes.

Under the No-Action Alternative, there would be minimal adverse impacts on fisheries and wildlife resources. These would primarily be related to flooding within the previously protected area and impacts to water quality. However, wetland species may benefit as more frequent flooding of the previously protected area would recharge wetlands that have been hydrologically cut off from the Missouri River. Other terrestrial organisms could be temporarily displaced or have their habitat degraded by flooding.

Threatened or Endangered Species

The species listed as threatened or endangered within Holt County, Missouri include the Indiana bat (*Myotis sodalis*) (E), pallid sturgeon (*Scaphirhynchus albus*) (E), and the Western prairie fringed orchid (T) (*Plantantera praeciara*). In addition, the Bald eagle is no longer federally listed, but is still protected under the Bald and Golden Eagle Act and Migratory Bird Treaty Act.

With the implementation of the recommended plan or build alternatives, no adverse effects on any federally-listed threatened or endangered species or their habitat are anticipated to occur. The Pallid sturgeon (*Scaphirhynchus albus*) is found primarily in the Missouri River and Mississippi River. No work is proposed within the Missouri River. The Indiana bat (*Myotis sodalis*) roosts in exfoliating trees greater than 9 inches diameter breast height during the spring and summer, and hibernate in caves during the fall and winter. Levee work would not impact any Indiana bat habitat. The project area consists of pre-disturbed land by levee construction and agricultural activity; therefore, the western prairie fringed orchid is not likely to be found in the project area. A bald eagle nest is located at the south end of Big Lake, however this nest is not located within the project boundary, and no activity is proposed within the 660-ft buffer area. Therefore, no impacts to bald eagle nesting are expected to occur from the project action. In addition, all project areas would be surveyed for nesting birds prior to construction. All on-site personnel would be informed prior to construction activities of the possible presence of nesting birds, and how to avoid any disturbance and proper reporting procedures. No impacts to any state listed endangered species or their habitat were identified.

Under the No-Action Alternative, there would be no impacts to endangered or threatened species since the project area does not contain habitat to support these listed species.

Woodlands

With the implementation of the recommended plan or build alternatives, woodlands would not be affected. Tree removal is not anticipated and if required would be minor and restricted to scrub shrub or early successional woody vegetation.

The "No Action" Alternative could result in increases to the forested floodplain if lands are abandoned from farming due to the high risk of flooding. Overtime, successional vegetative growth could result in large expanses of floodplain forest.

Wetlands

The recommended plan would have short term, minor effects on wetlands. A total of four acres of farmed wetland areas would be excavated to obtain fill material. The properties from which borrow will be obtained are enrolled in the Wetland Reserve Program (WRP) and have significant deposits of sandy material that resulted from the nearby levee breach during the 2007 flood. Deposition of this material severely impacted the wetlands that previously existed at these locations. Using these areas as borrow will allow this depositional material to be removed and restore the wetlands that previously existed. Borrow material will be removed in accordance with NRCS specifications coordinated between the project sponsors and the NRCS in a Compatible Use Authorization Agreement. Removal of this sediment will allow for long-term beneficial impacts to these WRP areas by restoring their depth (24 inches) and the perimeter will be shaped to restore wetland hydrology. These areas will be allowed to naturally revegetate with wetland vegetation.

Alternative 1: In-place repairs. Under this alternative, the impacts to wetlands would be similar to those described under the recommended plan.

Alternative 2: Landward levee setback. Under this alternative, riverward scour holes would eventually provide wetland habitat and the impacts to farmed wetlands would be similar to those described under the recommended plan.

The "No Action" Alternative could result in minor benefits to existing wetlands located on the flood plain within the protected area as these areas would be subject to a high level risk of future flooding.

Agricultural

With the implementation of the recommended plan, restoring the levees to their pre-existing levels of protection would protect 10,000 acres of existing cropland and 54 farm buildings during a 10-yr flood event. However, approximately four acres of farmed wetlands and 0.1 acre of farmland would be taken out of row crop production during the acquiring of fill material and to allow space for the levee setback.

Alternative 1: In-place repairs. Under this alternative, impacts to farmland would be similar to those described under the recommended plan, but the amount of disturbance to agricultural lands would be less since the levees would be repaired on the existing levee alignment.

Alternative 2: Landward levee setback. This impact would be similar to those described under the recommended plan, but the amount of disturbance in agricultural lands would be less since a

smaller amount of fill material would be required for this alternative than for the recommended plan.

The "No-Action" alternative would adversely impact agricultural activity by exposing approximately 10,000 acres of cropland within the protected area to increased flooding. This loss of agricultural production would have indirect adverse impacts such as lost income, lower tax base, and decreased land value.

Archeological and Historical Resources

The recommended plan would have no impact to sites listed on or eligible for inclusion on the National Register of Historic Places (NRHP). A background check of the NRHP and site location maps identified no previously recorded sites within or near the proposed project areas. In a letter to the Missouri State Historic Preservation Officer, (SHPO), the COE recommended that the project would have no effect on historic properties and that the project should be allowed to proceed. The SHPO concurred with this recommendation on November 26, 2007 (Appendix II). Further, this project would be coordinated with appropriate federally recognized Native American tribes (Tribes). If in the unlikely event that archeological material is discovered during project construction, work in the area of discovery would cease until the discovery is investigated by a qualified archeologist, and the find is coordinated with SHPO and the Tribes.

The "No Action" Alternative would result in no effects to archaeological or historical resources.

Flood Plain

The recommended plan would return an approximately 10 year level of flood protection to the existing levee system and restore this levee to its near original alignment. Therefore, the recommended plan would not directly or indirectly support more development in the floodplain or encourage additional occupancy and/or modification of the base floodplain. Furthermore, the COE has determined that the recommended plan complies with the intent of Executive Order 11988.

Alternative 1: In-place repairs. Under this alternative, impacts to the floodplain would be similar to those described under the recommended plan.

Alternative 2: Landward levee setback: Under this alternative, impacts to the floodplain would be similar to those described under the recommended plan.

The "No Action" Alternative would continue to expose all public and private infrastructure and agricultural croplands protected by the levee to a high level risk of future flooding.

Economics

With the implementation of the recommended plan, the levees would be restored to a 10 year level of flood protection. Public and private infrastructure and agricultural croplands protected by the levee prior to the flood damage would continue to be protected against a 10-year flood event. Economic conditions are unlikely to change from those of pre-damage levee conditions with the repair of this levee system.

Alternative 1: In-place repairs. Under this alternative, impacts to economics would be similar to those described under the recommended plan.

Alternative 2: Landward levee setback: Under this alternative, impacts to economics would be similar to those described under the recommended plan.

The "No Action" Alternative has a zero benefit to cost ratio and would continue to expose all public and private infrastructure and agricultural croplands protected by the levee prior to the flood damage to a high level risk of future flooding. People's livelihood and social well-being would remain in turmoil, subject to the continuous threat of flooding until level of flood protection is restored. Failure to reconstruct the levee could adversely affect the tax base of the county and municipal governments and special districts, such as school districts. In addition, loss of jobs and potential losses in agricultural production on lands protected by the levee would also be incurred.

Section 12: CUMULATIVE IMPACTS

The combined incremental effects of human activity are referred to as cumulative impacts (40 CFR 1508.7).

Historically, the Missouri River and its floodplain has been altered by past actions such as bank stabilization, dams on the river and its tributaries, roads/bridges, agricultural and urban levees, channelization, farming, water withdrawal for human and agricultural use, urbanization and other human uses. These activities have substantially altered the terrestrial and aquatic ecosystem within the Missouri River watershed.

The repairs of damaged levees are expected to continue in the future as unpredictable flood events of the Missouri River occur. These projects would not result in an addition to flood heights or a reduced flood plain area but are merely a form of maintenance to that which had previously existed. Environmental resources typically affected by levee repair actions such as these may include wetlands, fish and wildlife resources, water quality, agricultural, and riparian woodlands. However, the impacts to these resources are usually short term, and minor and not adverse and long-term.

The proposed action would involve restoring agricultural levees damaged during the May 2007 flood to their pre-existing protection levels. This project would result in minor, short term impacts to the aquatic ecosystem and minor, short term impacts to fish and wildlife and the habitats upon which they depend. In addition, the proposed action would result in minor, long term impacts associated with the loss of agricultural cropland. However, the proposed borrow activity in the wetlands would enhance the functions and values of the aquatic ecosystem. Overall, minor construction-related impacts would be greatly offset by restoring the flood risk management capability and its associated social and economic benefits of the existing levee system. The recommended plan would not directly or indirectly support more development in the floodplain or encourage additional occupancy and/or modification of the base floodplain. Thus, no significant cumulative impacts associated with the proposed rehabilitation of the existing levee system have been identified.

Section 13: MITIGATION MEASURES

The recommended plan will result in no adverse impacts to mitigable resources as defined in COE Planning regulations or under Section 404 of the Clean Water Act. The identification of borrow sites was completed in accordance with the Standard Operating Procedures for the selection of Borrow Sites Missouri River and Tributaries 1995 Levee Repair. These guidelines

were developed through coordination with the U.S. Fish and Wildlife Service and the Missouri Department of Conservation. The guidelines were developed to avoid and/or minimize adverse impacts to the aquatic ecosystem to the greatest extent practicable, and where possible take advantage of the borrow acquisition activity to enhance the aquatic ecosystem. The proposed fill acquisition in the farmed wetlands has been designed to enhance the functions and values of the aquatic ecosystem; and utilizing these guidelines, no adverse impacts to wetlands would occur. Therefore, no compensatory mitigation is required or proposed.

Section 14: CONCLUSION

The proposed action would involve restoring agricultural levees damaged during the May 2007 flood to their pre- protection levels. This project would result in minor, short term impacts to the aquatic ecosystem and minor, short term impacts to fish and wildlife and the habitats upon which they depend. In addition, the proposed action would result in minor, long term impacts associated with the loss of agricultural cropland. Approximately four acres of farmed wetlands and 0.1 acre of farmland would be taken out of row crop production during the acquiring of fill material and to allow space for the levee setback. However, the proposed borrow activity in the wetlands would enhance the functions and values of the aquatic ecosystem. In addition, the proposed action would have no impact to sites listed on or eligible for inclusion on the National Register of Historic Places. Overall, the minor, impacts associated with this project are outweighed by the long-term social and economic benefits.

Section 15: COMPLIANCE WITH ENVIRONMENTAL QUALITY STATUTES

Compliance with Designated Environmental Quality Statutes that have not been specifically addressed earlier in this report are covered in Table 1 below:

Table 1
Compliance of Preferred Alternative with Environmental Protection
Statutes and Other Environmental Requirements

Federal Polices	Compliance
Archeological Resources Protection Act, 16 U.S.C. 470, et seq.	Full Compliance
Clean Air Act, as amended, 42 U.S. C. 7401-7671g, et seq.	Full Compliance
Clean Water Act (Federal Water Pollution Control Act), 33 U.S.C. 1251, et seq.	Full Compliance
Coastal Zone Management Act, 16 U.S.C. 1451, et seq.	Not Applicable
Endangered Species Act, 16 U.S.C. 1531, et seq.	Full Compliance
Estuary Protection Act, 16 U.S.C. 1221, et seq.	Not Applicable
Federal Water Project Recreation Act, 16 U.S.C. 4601-12, et seq.	Full Compliance
Fish and Wildlife Coordination Act, 16 U.S.C. 661, et seq.	Full Compliance
Land and Water Conservation Fund Act, 16 U.S.C. 4601-4, et seq.	Not Applicable
Marine Protection Research and Sanctuary Act, 33 U.S.C. 1401, et seq.	Not Applicable
National Environmental Policy Act, 42 U.S.C. 4321, et seq.	Full Compliance

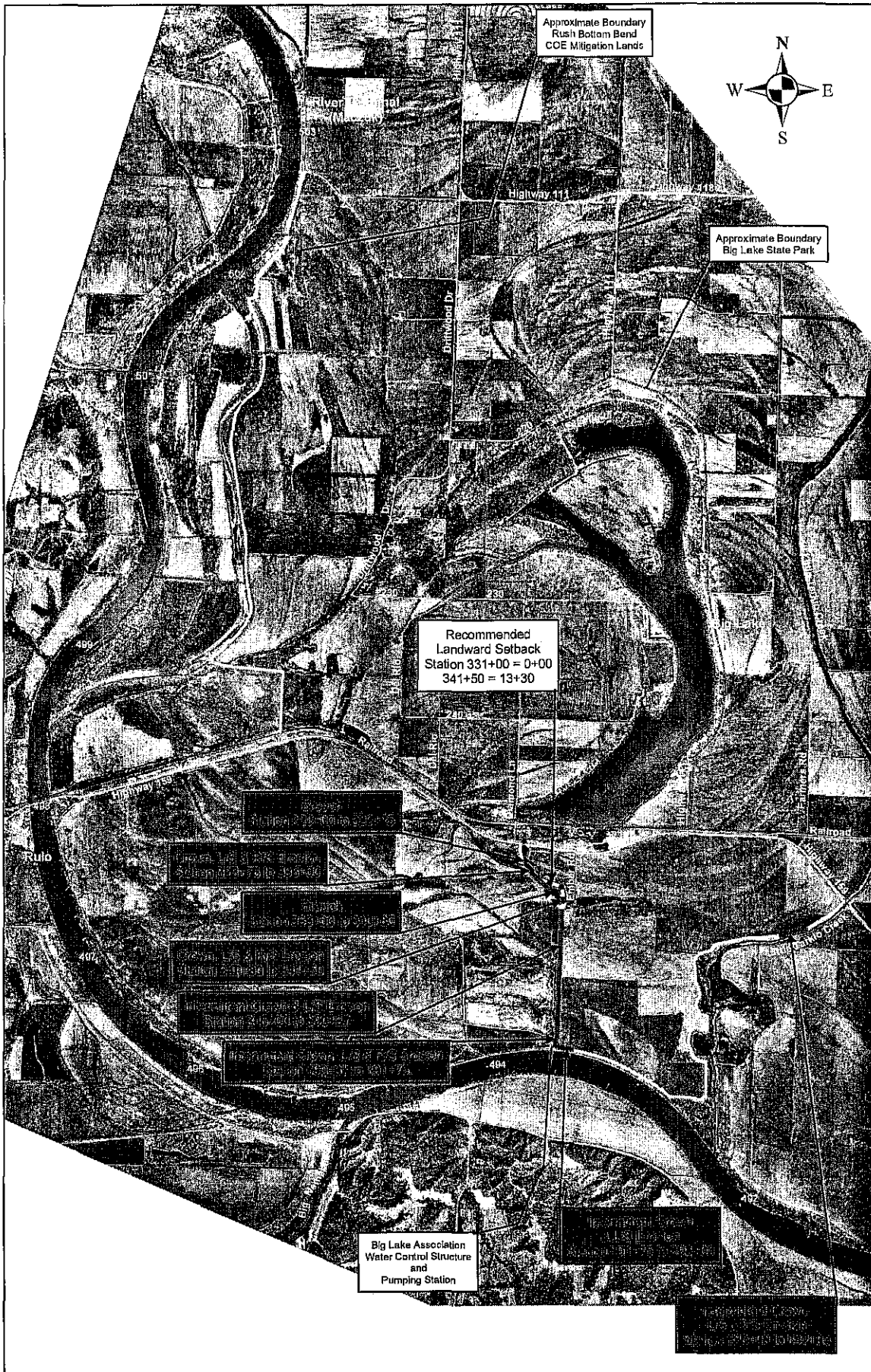
National Historic Preservation Act of 1966, as amended, 16 U.S.C. 470a, et seq.	Full Compliance
Rivers and Harbors Act, 33 U.S.C. 403, et seq.	Full Compliance
Watershed Protection and Flood Prevention Act, 16 U.S.C. 1001, et seq.	Full Compliance
Wild and Scenic River Act, 16 U.S.C. 1271, et seq.	Not Applicable
Farmland Protection Policy Act, 7 U.S.C. 4201, et. seq.	Full Compliance
Protection & Enhancement of the Cultural Environment (Executive Order 11593)	Full Compliance
Floodplain Management (Executive Order 11988)	Full Compliance
Protection of Wetlands (Executive Order 11990)	Full Compliance
Environmental Justice (Executive Order 12898)	Full Compliance

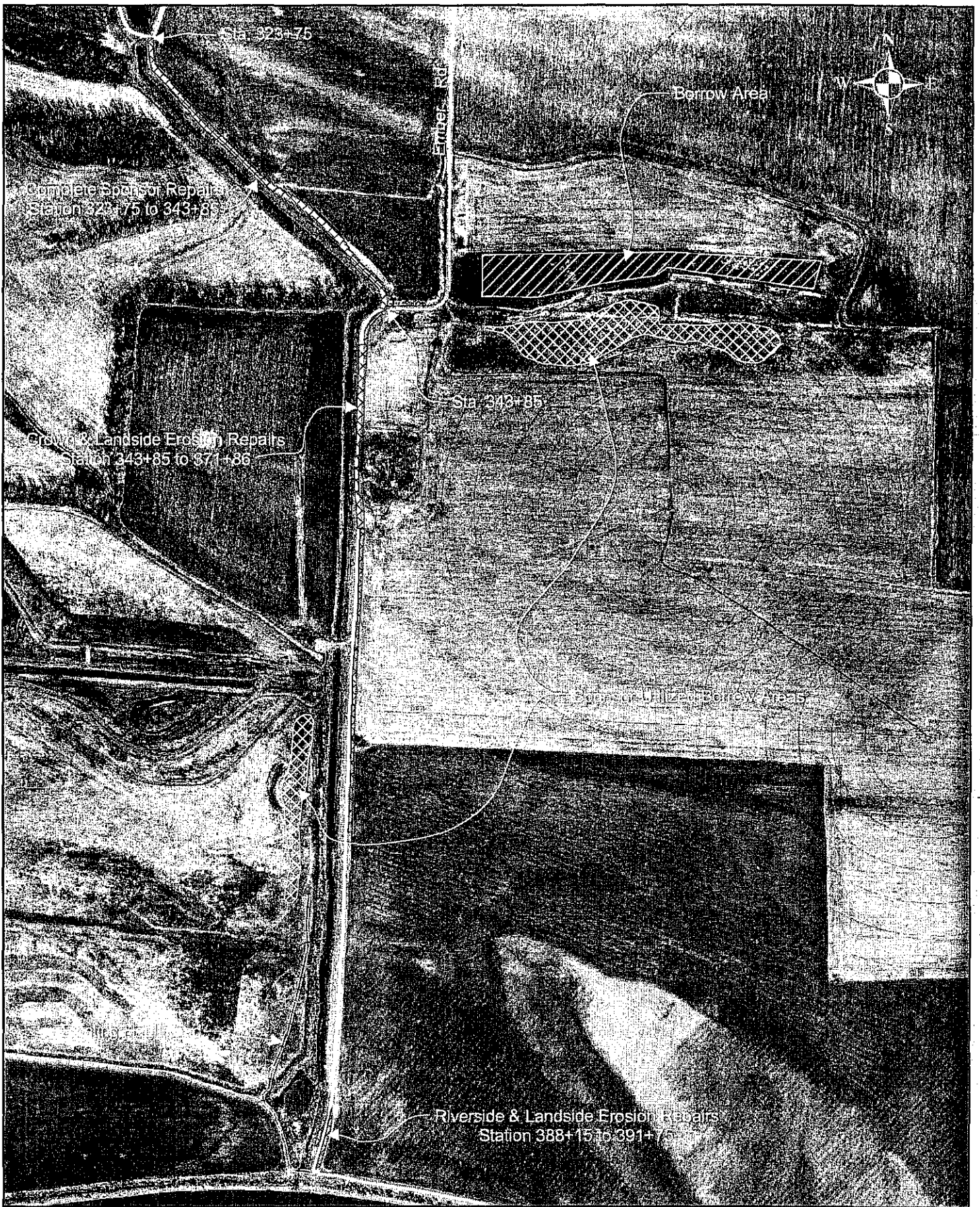
NOTES:

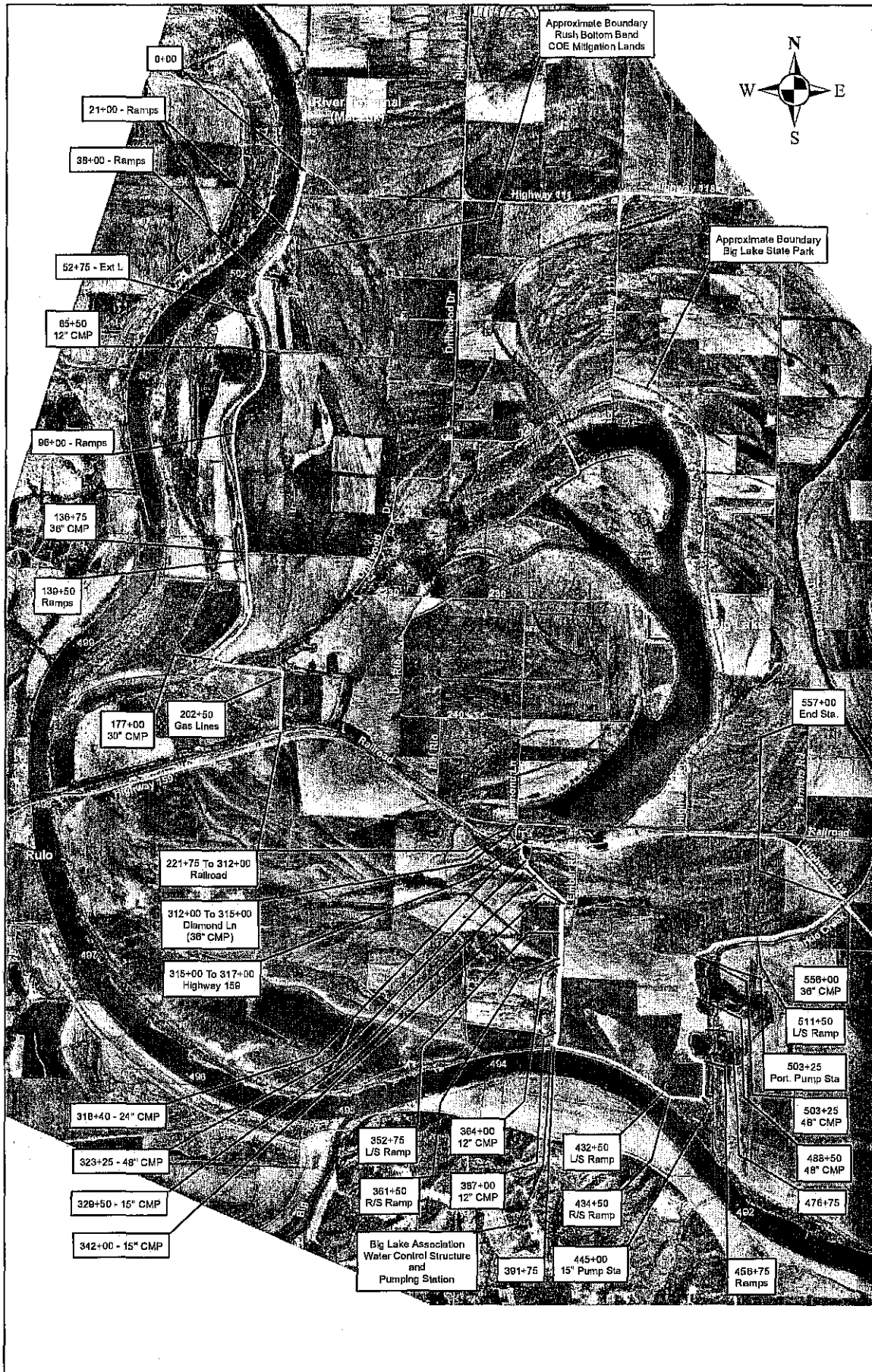
- a. Full compliance. Having met all requirements of the statute for the current stage of planning (either preauthorization or postauthorization).
- b. Partial compliance. Not having met some of the requirements that normally are met in the current stage of planning.
- c. Noncompliance. Violation of a requirement of the statute.
- d. Not applicable. No requirements for the statute required; compliance for the current stage of planning.

Section 16: Preparers

This EA and the associated draft FONSI was prepared by Ms. Lekesha Reynolds (Environmental Resource Specialist), with the cultural section prepared by Mr. Timothy Meade (Archeologist). The address of the preparers is: U.S. Army Corps of Engineers, Kansas City, District; PM-RP, Room 843, 601 E. 12th St, Kansas City, MO 64106.







**APPENDIX II – STATE HISTORIC
PRESERVATION OFFICER, COORDINATION
LETTER**



Matt Blunt, Governor • Doyle Childers, Director

DEPARTMENT OF NATURAL RESOURCES

www.dnr.mo.gov

November 26, 2007

Timothy Meade
Corps of Engineers, Kansas City District
700 Federal Building
Kansas City, Missouri 64106-2896

Re: Emergency Repairs, Holt County Levee No. 10 (COE) Holt County, Missouri

Dear Mr. Meade:

Thank you for submitting information on the above referenced project for our review pursuant to Section 106 of the National Historic Preservation Act (P.L. 89-665, as amended) and the Advisory Council on Historic Preservation's regulation 36 CFR Part 800, which requires identification and evaluation of cultural resources.

We have reviewed the information provided concerning emergency repairs to the Holt County Levee No. 10. Based on this review we concur with your recommendation that the projects are in areas of low potential of recently accreted land, or areas of previous disturbance and that there will be **no historic properties affected**. We have no objection to the initiation of project activities.

Please be advised that, should project plans change, information documenting the revisions should be submitted to this office for further review. In the event that cultural materials are encountered during project activities, all construction should be halted, and this office notified as soon as possible in order to determine the appropriate course of action.

If you have any questions, please write Judith Deel at State Historic Preservation Office, P.O. Box 176, Jefferson City, Missouri 65102 or call 573/751-7862. Please be sure to include the SHPO Log Number **(003-HO-08)** on all future correspondence or inquiries relating to this project.

Sincerely,

STATE HISTORIC PRESERVATION OFFICE

Mark A. Miles
Director and Deputy
State Historic Preservation Officer

MAM:jd



DEPARTMENT OF THE ARMY
KANSAS CITY DISTRICT, CORPS OF ENGINEERS
700 FEDERAL BUILDING
KANSAS CITY, MISSOURI 64106-2896

REPLY TO

ATTENTION OF:

February 22, 2008

Planning, Programs and Project Management Division
Planning Branch

NOTICE OF AVAILABILITY

An Environmental Assessment (EA) titled, Holt County Missouri Drainage District No. 10 Non-Federal, Item 114A, Levee Rehabilitation Project and a draft Finding of No Significant Impact (FONSI) prepared by the U.S. Army Corps of Engineers, Kansas City, are available for your review on the project's website at [http:// www.nwk.usace.army.mil](http://www.nwk.usace.army.mil).

The Kansas City District - U.S. Army Corps of Engineers in cooperation with the project sponsor, Holt County, Missouri Drainage District No. 10, proposes to construct the Holt County Levee Rehabilitation Project under the authority of Public Law 84-99, of the Flood Control Act of 1944. Under this authority, the Corps of Engineers can provide assistance to public agencies in responding to flood emergencies such as the rehabilitation of flood control works damaged or destroyed by floods.

The project area is located in Holt County, Missouri along the left descending bank of the Missouri River, river miles 502.7 to 492 and right descending bank of Little Tarkio Creek. The proposed project would involve the re-seeding of landside and riversides slopes, repairs to breaches using earthen fill, repairs to intermittent levee crowns and erosion areas, levee setbacks, and the replacement of lost sod. Repairs are required as a result of the flood event declared on 6 May 2007.

Copies of EA and the draft FONSI are available upon request. Please contact Ms. Lekesha Reynolds; U.S. Army Corps of Engineers; PM-PR, 601 E. 12th Street, Kansas City, Missouri, 64106; to request a copy. Request also can be made by calling (816) 389-3160, or by e-mail to lekesha.w.reynolds@usace.army.mil.

The public review and comment period for EA and draft FONSI will end 30 days from the date of this letter.

Sincerely,

David L. Combs
for

David L. Combs
Chief, Planning Branch